WALT: Understand place value to numbers to 100,000

1.

What is the number represented on this place value chart?

TTh	Th	H	T	O

a) Write the number in numerals and words.

b)

> I added 2 counters in the tens column.

What number has Teddy made?

2.

Nijah has made this number on a place value chart.

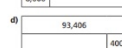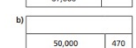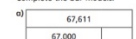| TTh	Th	H	T	O

a) Write the number in numerals and words.

b) Nijah adds 2 counters to the thousands column, and 1 counter to the tens column.
Write Nijah's new number in numerals.
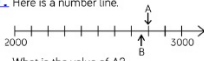
3.

Complete the bar models.

a)

67,611
67,000	

c)

78,319
8,000	

b)

50,000	470

d)

93,406
	400

4.

Complete the number sentences.

a) 42,000 = ☐ + 2,000

b) 17,250 = 10,000 + ☐ + ☐ + 50

c) 20,455 = ☐ + ☐ + ☐ + ☐

d) 70,090 = ☐ + 10,000 + ☐

e) 50,641 = 40,000 + ☐ + ☐ + 341

Problem solving/Reasoning

5. Here is a number line.

```
A
|
↓
↑
B
2000        3000
```

What is the value of A?

6. B is 40 less than A.
What is the value of B?

C is 500 less than B.
Add C to the number line.

7.
Here are three ways of partitioning 27,650

27 thousands and 650 ones
27 thousands, 5 hundreds and 150 ones
27 thousands and 65 tens

Write three more ways

8.
Rosie counts forwards and backwards in 10s from 317

Circle the numbers Rosie will count.

427	997	−7
1,666	3,210	5,627
−23	7	−3

Explain why Rosie will not say the other numbers.

WALT: Compare and order numbers to 100,000

9. Circle the greatest number in each pair.

a) 10,000   1,000   d) 5,400   4,500

b) 2,300   3,200   e) 56,000   6,500

c) 34,975   9,345   f) 9,999   99,999

10.
Write the numbers in order starting with the smallest.

a) 9,000   908   972   99   90,000

b) 700   72   576   907   27

11.
Write <, > or = to compare the numbers.

a) 908 ◯ 909   e) 200 ◯ 29

b) 81,227 ◯ 80,999   f) 300 + 27 ◯ 200 + 127

c) 7,163 ◯ 7,262   g) 4,000 + 10,000 ◯ 13,000

d) 982 + 1 ◯ 984 − 1   h) 19,000 + 70 + 200 ◯ 19,270

Problem solving/Reasoning

12.
Use these numbers to label the number line.

a. 67,550   b. 63,570   c. 64,450   d. 61,800

```
60,000    ↓  ↓    ↑    70,000
```

13.
Write all the possible digits that could make each statement correct.

a) 9,751 < 9,_83

b) 9,751 < 9,_15

c) 9,751 < 9,7_6

14.
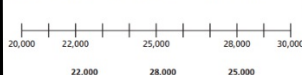Here are 5 digit cards.

8	5	7	4	9

a) How many different 5-digit numbers can you make between 50,000 and 55,000 using the digit cards?

b) Write your answers in descending order.

WALT: Round numbers within 100,000

15.
Use the number line to round the numbers to the nearest 10,000

```
20,000    22,000    25,000    28,000    30,000
          22,000    28,000
                    25,000
```

16. Round each number to the nearest 10,000

a) 32,442   d) 7,906

b) 78,675   e) 15,000

c) 50,031   f) 4,999

17.
Round the attendance numbers at these famous sporting events to the nearest 1,000

Sporting event	Attendance	Attendance to the nearest 1,000
American Football Super Bowl	70,081	
FA Cup Final	87,647	
Baseball World Series	54,367	
Rugby Super League Final	72,827	
Australian Rules Football Grand Final	100,022	

18. Mo rounds a number to the nearest 1,000

> My answer is 40,000

a) Write three numbers Mo could have started with.
Use the number line to help you.

```
39,000    40,000    41,000
```

b) What is the smallest number Mo could have started with?

c) What is the biggest number Mo could have started with?

Problem solving/Reasoning

19.
Round 59,996 to the nearest 1,000
Round 59,996 to the nearest 10,000

What do you notice about the answers?

Can you think of three more numbers where the same thing could happen?

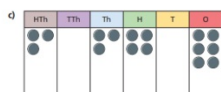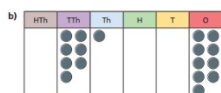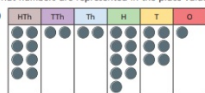**20**
Two 5-digit numbers have a difference of five.

When they are both rounded to the nearest thousand, the difference is 1,000

What could the numbers be?

Fluency

Problem solving/Reasoning

1. What numbers are represented in the place value charts?

a)

HTh	TTh	Th	H	T	O

b)

HTh	TTh	Th	H	T	O

c)

HTh	TTh	Th	H	T	O

2. Write the value of the 3 in each number.

a) 387   d) 307,612

b) 5,306   e) 531,476

c) 7,903   f) 603,956

Partition each number into its parts. The first one has been done for you.

3.

a) 32,607 =   30,000 + 2,000 + 600 + 7

b) 2,915 =   _____

c) 30,316 =   _____

d) 438,390 =   _____

e) 769,688 =   _____

4. Complete the table.

Numerals	550,000		850,000	
Words	five hundred and fifty thousand	six hundred and twenty thousand		seven hundred and sixty-two thousand

5. Complete the number sentences.

◻ + 76,480 = 376,480

◻ + 276,480 = 576,480

◻ − 76,480 = 300,000

576,480 − ◻ = 76,480

6. Describe the value of the digit 7 in each of the following numbers. How do you know?

407,338

700,491

25,571

7. The bar models are showing a pattern.

40,000
| 25,000 | 15,000 |

40,000
| 20,000 | 20,000 |

40,000
| 15,000 | 25,000 |
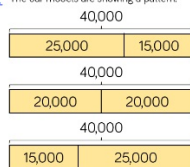
Draw the next three.

Create your own pattern of bar models for a partner to continue.

8. Dora is thinking of a 6-digit number.

- It is an odd number.
- The smallest digit has the greatest value.
- The greatest digit has the smallest value.
- The first and last digit add up to 10
- The first three digits also add up to 10
- The last three digits add up to 20
- The two middle digits are the same.

What could Dora's number be?

Write another 6-digit number and clues to go with it.
Share the clues with a partner to see if they can find your number.

Fluency

Problem solving/Reasoning

9. Complete the sequences and describe what is happening.

a) 7, 17, ◻, 37, 47, ◻, 67

b) 109, ◻, ◻, 139, 149, ◻, 169

c)
| 475 | | 675 | | 875 | | |

d)
| 6,300 | | 8,300 | 9,300 | | |

e)
| 6,300 | | 6,280 | 6,270 | | |

10. Here is part of a sequence.

. . . 7,450   7,550   7,650   7,750   7,850   7,950 . . .

Circle all the numbers below that will appear in the sequence.

7,505   9,150   6,050   7,591   16,500   155,250

Explain your answer.

Write three other numbers that will also appear in the sequence.

Circle and correct the mistake in each sequence.

- 7,875, 8,875, 9,875, 11,875, 12,875, 13,875, ...

- 864,664, 764,664, 664,664, 554,664, 444,664, ...

11. Amir writes the first five numbers of a sequence.

They are
3,666, 4,666, 5,666, 6,666, 7,666

The 10th term will be 15,322 because I will double the 5th term.   Amir

Is he correct?
Explain why.

12.

I am counting up in 10s from 184 I will include 224   Mo

I am counting up in 100s from 604 I will include 1,040   Rosie

I am counting up in 1,000s from 13 I will include 130,000   Jack

Who has made a mistake?
Identify anyone who has made a mistake and explain how you know.

WALT: Understand place value to numbers to 100,000

Fluency

Problem solving/Reasoning

1.

a) 61,342, sixty-one thousand, three hundred and forty-two
b) 61,362

2.

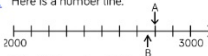a) 18,591, eighteen thousand, five hundred and ninety-one
b) 20,601

3.

a)

67,611	
67,000	611

c)

78,319	
8,000	70,319

b)

50,470	
50,000	470

d)

93,406	
93,006	400

4.

a) 40,000
b) 7,000 + 200
c) 20,000 + 400 + 50 + 5
d) 60,000 + 90
e) 10,000 + 300

5. Here is a number line.

2000   3000

What is the value of A?

B is 40 less than A.
What is the value of B?

C is 500 less than B.
Add C to the number line.

A = 2,800

B = 2,760

6. Here are three ways of partitioning 27,650

27 thousands and 650 ones
27 thousands, 5 hundreds and 150 ones
27 thousands and 65 tens

Write three more ways

Possible answers:

2 ten thousands, 6 hundreds and 5 tens

20 thousands, 7 thousands and 650 ones

7. Rosie counts forwards and backwards in 10s from 317

Circle the numbers Rosie will count.

427	997	−7
1,666	3,210	5,627
−23	7	−3

Explain why Rosie will not say the other numbers.

427
997
5,627
7
−3
−23

Any positive number will have to end in a 7

Any negative number will have to end in a 3
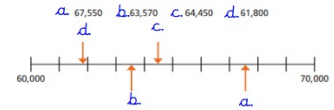
WALT: Compare and order numbers to 100,000

Fluency

8.

a) 10,000
b) 3,200
c) 34,975
d) 5,400
e) 56,000
f) 99,999

9.

a) 99   908   972   9,000   90,000
b) 27   72   576   700   907

10.

a) <
b) >
c) <
d) =
e) >
f) =
g) >
h) =

11.

Problem solving/Reasoning

Use these numbers to label the number line.

a. 67,550   b. 63,570   c. 64,450   d. 61,800

60,000   70,000

12.

a) 7, 8, 9
b) 8, 9
c) 5, 6, 7, 8, 9

13.

a) 54,789   54,798   54,879   54,897   54,978   54,987
b) 54,987   54,978   54,897   54,879   54,798   54,789

Fluency

ANSWERS

<u>14</u>

22,000 rounds to **20,000** to the nearest 10,000
28,000 rounds to **30,000** to the nearest 10,000
25,000 rounds to **30,000** to the nearest 10,000

<u>15</u>
a) 30,000
b) 80,000
c) 50,000
d) 10,000
e) 20,000
f) 0

<u>16</u>
70,000
88,000
54,000
73,000
100,000

<u>17</u>

a) any three numbers from 39,500 up to (but not including) 40,500
b) 39,500
c) 40,499

<u>19.</u> Round 59,996 to the nearest 1,000
Round 59,996 to the nearest 10,000

What do you notice about the answers?

Can you think of three more numbers
where the same thing could happen?

Both numbers
round to 60,000

Other examples:

19,721 to the
nearest 1,000 and
10,000

697 to the nearest
10 and 100

22,982 to the
nearest 100 and
1,000

20
Two 5-digit numbers have a difference of
five.

When they are both rounded to the
nearest thousand, the difference is 1,000

What could the numbers be?

Two numbers with
a difference of five
where the last
three digits are
between 495 and
504

e.g. 52,498 and
52,503

ANSWERS

Fluency

1.

a) 104,379

HTh	TTh	Th	H	T	O

b) 804,363

HTh	TTh	Th	H	T	O

c) 92,715

HTh	TTh	Th	H	T	O

d) 690,018

HTh	TTh	Th	H	T	O
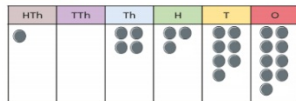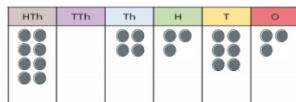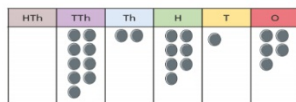
Many possible answers e.g. they all have a digit total of 24, they are all less than a million; they are all greater than 90,000 etc.

2.
a) Three hundred
b) Three hundred
c) Three ones
d) Three hundred thousand
e) Thirty thousand
f) Three thousand

3.
b) 2,915 = 2,000 + 900 + 10 + 5
c) 30,316 = 30,000 + 300 + 10 + 6
d) 438,390 = 400,000 + 30,000 + 8,000 + 300 + 90
e) 769,688 = 700,000 + 60,000 + 9,000 + 600 + 80 + 8

4.
620,000
Eight hundred and fifty thousand
762,000

Problem solving/Reasoning

5.
300,000
300,000
376,480
500,000

6.

Describe the value of the digit 7 in each of the following numbers. How do you know?
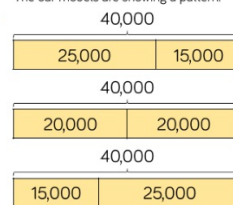
407,338

700,491

25,571

407,338: the value is 7 thousand. It is to the left of the hundreds column.

700,491: the value is 7 hundred thousand. It is a 6-digit number and there are 5 other numbers in place value columns to the right of this number.

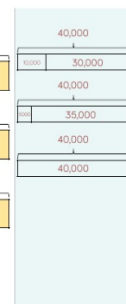25,571: the value is 7 tens. It is one column to the left of the ones column.

7.

The bar models are showing a pattern.

40,000	
25,000	15,000

40,000	
20,000	20,000

40,000	
15,000	25,000

40,000
10,000	30,000

40,000
5,000	35,000

40,000

Draw the next three.

Create your own pattern of bar models for a partner to continue.

8.
Possible solutions are:
127,749
136,659
145,569
154,479
163,389

Fluency

Problem solving/Reasoning

8.
a) 27   57
   The sequence is increasing by 10
b) 119   129   159
   The sequence is increasing by 10
c) 575   775   975   1,075
   The sequence is increasing by 100
d) 7,300   10,300   11,300   12,300
   The sequence is increasing by 1,000
e) 6,290   6,260   6,250   6,240
   The sequence is decreasing by 10

9.

9,150   6,050   155,250
Since the sequence is increasing by 100 from term to term, the tens and ones digits will always remain the same (50). Any values in the other columns are possible.
any numbers that have 5 in the tens column and 0 in the ones column, e.g. 450   19,950

10.

Circle and correct the mistake in each sequence.

• 7,875, 8,875, 9,875, (11,875,) 12,875, 13,875, …

• 864,664, 764,664, 664,664, (554,664,) 444,664, …

11.
Amir writes the first five numbers of a sequence.

They are
3,666, 4,666, 5,666, 6,666, 7,666

The 10th term will be 15,322 because I will double the 5th term.

Amir

Is he correct?
Explain why.

The 10th term is 12,666 because Amir is adding 1,000 each time. He should have added 5,000 not doubled the 5th term.

12.

I am counting up in 10s from 184
I will include 224

Mo

I am counting up in 100s from 604
I will include 1,040

Rosie

I am counting up in 1,000s from 13
I will include 130,000

Jack

Who has made a mistake?
Identify anyone who has made a mistake and explain how you know.

Rosie has made a mistake. She is counting in 100s; therefore the ones column should never change.

Jack has also made a mistake as he is counting in 1,000s, so the tens and ones columns won't change.